

WHEAT VARIETY CHALLENGE 2001-02

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Location: Edisto Research and Education Center, Barnwell Co. SC, Field B-6 A.

Design: RCB with five replicates; plot size 8 rows (8" spacing) x 40'

Soil Type: Varina sandy loam.

Rotation: 2001 strip-till corn, wheat; 2000 peanut, fallow; 1999 strip-till corn, fallow; 1998 wheat, fallow; 1997 corn, wheat

Planting

Date: 27 Nov 2001

Seeding

Rate: 24 seed / row foot

General

Fertility: 30 lbs. /acre P + 90 lbs./acre K applied pre-plant. 30 lbs./acre N (11.3 gal S-25) was applied 19 Dec and 70 lbs./acre N (26.4 gal S-25) was applied 13 Feb (GS 23). Total N = 100 lbs./acre, total S = 14 lbs./acre.

Herbicide: 0.33 oz Express 75DF was applied 24 Jan.

Insecticide: Warrior T (3.87 oz /ac) applied with N 13 Feb.

Methods: Wheat maturity was determined by examining representative plants from one replicate. Hessian fly (HF) infestation was determined by examining 100 culms per variety. 80 culms were pulled from the yield plots (20 stems x 4 replicates). The final 20 stems were taken from single row plots planted Oct 27 in a separate field close to a known HF source (last year's wheat stubble) where every other row was planted with Coker 9704 such that this susceptible cultivar bordered each variety on both sides. Disease notes were taken by examining at least three replicates. Powdery mildew (PM) rating was taken by two observers 1 Apr on an arbitrary 0-5 scale 0 = none observed, 1 = some mildew present on lower stems, 2 = mildew affecting the lowest leaves, 3 = mildew affecting mid- and lower-canopy leaves, 4 = mildew symptoms affecting some F-2 and F-1 leaves; 5 = entire plant diseased. Rust pustules were counted 26 Apr (soft dough stage) from three replicates by two observers, each looking at five randomly pulled flag leaves (FL) per plot. The inner six rows of each 8-row plot were harvested 24 May with an Almaco plot combine. Yield samples were weighed on an electronic balance. Test weight was taken by funneling a sub-sample of grain through a Seedburo No. 151 filling hopper and weighing one dry pint of grain on an electronic scale. Grain moisture content was measured with a Burrows DMC-700 moisture meter. All yields were adjusted to 13.5% moisture before analysis.

Analysis: ANOVA, using SAS PROC GLM and Fisher's protected LSD ($P=0.05$).

Table 1. Wheat varietal characteristics, disease and Hessian fly tolerance, yield and test weight. Blackville, SC 2001-02.

Variety	Jointing Date	Heading Date	Powdery Mildew Rating* 1 Apr	Rust Pustules /FL 26 Apr	PM on FL 26 Apr	Tan spot present 26 Apr	Hessian Fly		Yield bu/ac	Test wt. lb/bu
							% inf	/ culm		
Pioneer 2684	8-Mar	1-Apr	1.1 e	24.7 a	no	yes	3.0	0.04	51.3	58.2
USG 3209	10-Mar	7-Apr	0.9 e	0.0 d	no	no	8.2	0.10	50.5	57.2
Pioneer 26R38	10-Mar	5-Apr	2.4 c	0.5 bcb	yes	yes	2.8	0.04	49.7	56.1
AGS 2000	12-Mar	4-Apr	0.5 f	0.0 d	no	yes	3.6	0.04	49.4	55.8
Century II	9-Mar	6-Apr	3.3 ab	0.5 bcd	yes	no	19.2	0.35	47.6	58.1
Coker 9835	12-Mar	6-Apr	2.1 c	11.2 a	yes	no	5.6	0.12	47.4	56.8
GA 9312	8-Mar	8-Apr	1.6 d	1.6 bcd	no	no	16.4	0.23	46.8	58.5
Southern States 520	8-Mar	2-Apr	0.9 e	2.2 b	no	no	2.6	0.03	46.5	55.0
Pioneer 26R61	8-Mar	6-Apr	2.3 c	0.2 cd	yes	no	2.0	0.02	46.2	59.2
GA 922485	11-Mar	7-Apr	2.4 c	0.0 d	yes	no	2.4	0.02	44.7	58.4
Southern States 524	10-Mar	1-Apr	3.0 b	2.3 bc	yes	yes	6.8	0.10	44.0	54.3
Pioneer 26R46	8-Mar	6-Apr	0.8 ef	0.9 bcd	no	yes	6.8	0.09	42.4	54.2
BL 9509	12-Mar	8-Apr	2.4 c	0.1 cd	yes	no	22.0	0.53	41.0	56.1
Coker 9184	22-Mar	13-Apr	1.9 cd	0.5 bcd	no	no	18.0	0.41	39.3	59.9
Coker 9663	8-Mar	6-Apr	3.6 a	1.7 bcb	yes	no	11.4	0.23	38.8	57.2
BL 97155	22-Mar	13-Apr	3.0 b	0.1 cd	yes	no	8.0	0.14	37.7	56.9
RSI 314 (triticale)	20-Feb	---	0	---	---	---	0.0	0.00	32.7	58.9
Trical 498 (triticale)	20-Feb	---	0	---	no	no	13.8	0.20	22.9	43.1
Coker 9704	---	---	---	---	---	---	52.0	1.12	---	---
LSD ($P=0.05$)	---	---	---	---	---	---	11.3	0.13	5.5	5.5

Wheat was planted 27 Nov; triticale was planted 5 Dec; Harvested 24 May.

March freeze severely damaged all main stems and some T-1 tillers in both triticale varieties.

* 0-5 scale: 0 = none observed, 1 = some mildew present on lower stems, 2 = mildew affecting the lowest leaves, 3 = mildew affecting mid- and lower-canopy leaves, 4 = mildew symptoms affecting some F-2 and F-1 leaves; 5 = entire plant diseased. Means followed by the same letter are not significantly different, Fisher's protected LSD ($P=0.05$). Where letters are not used, refer to LSD values.